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NATIONAL COMMUNICABLE DISEASE CENTER

Morbidity and Mortality

Vol. 16, No. 36

WEEKLY REPORT

Week Ending September 9, 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

BUREAU OF DISEASE PREVENTION AND ENVIRONMENTAL CONTROL

INTERNATIONAL NOTES

OBSCURE DISEASE RELATED TO AFRICAN MONKEYS

Germany

A disease of unknown etiology in persons having contact with African monkeys has been reported in Germany. Five (5) definite cases and two (2) possible cases have been reported among persons working in animal operating rooms of the Paul Ehrlich Institute, Frankfurt am Main. Sixteen (16) cases occurred in persons working with monkeys or monkey cell cultures in Behringwerke AG., Marburg. A suspect case occurred in an animal handler who works in a laboratory in Biberach near Ulm. In addition, there have been three cases in medical personnel taking care of these patients and one in a person assisting at an autopsy. Seven of these 27 patients have died.

Initial symptoms include severe prostration, nausea, vomiting, diarrhea, and muscle aching which is particularly severe in the lumbar region. Conjunctivitis occurs

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CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	36th WEEK ENDED		MEDIAN	CUMULATIVE, FIRST 36 WEEKS		
	SEPTEMBER 9, 1967	SEPTEMBER 10, 1966	1962 - 1966	1967	1966	MEDIAN 1962 - 1966
Aseptic meningitis	144	141	55	1,764	1,745	1,280
Brucellosis	3	1	8	178	164	260
Diphtheria	3	7	7	73	127	160
Encephalitis, primary:						
Arthropod-borne & unspecified	36	71	- - -	1,077	1,376	- - -
Encephalitis, post-infectious	11	11	- - -	625	580	- - -
Hepatitis, serum	38	14	568	1,478	946	27,108
Hepatitis, infectious	590	439		26,175	22,163	
Malaria	32	9	2	1,354	249	61
Measles (rubeola)	194	414	541	57,617	189,095	357,669
Meningococcal infections, total	21	24	25	1,676	2,694	2,018
Civilian	21	24	- - -	1,563	2,422	- - -
Military	—	—	- - -	113	272	- - -
Poliomyelitis, total	3	5	5	25	71	73
Paralytic	2	5	5	21	67	67
Rubella (German measles)	123	158	- - -	39,723	41,504	- - -
Streptococcal sore throat & scarlet fever	4,476	3,772	3,772	323,416	305,939	284,579
Tetanus	5	5	5	152	120	181
Tularemia	2	—	3	125	118	197
Typhoid fever	14	7	11	284	252	283
Typhus, tick-borne (Rky. Mt. spotted fever)	18	12	6	248	198	178
Rabies in animals	78	62	63	3,120	2,979	2,979

NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	2	Rabies in man:	2
Botulism:	2	Rubella, Congenital Syndrome:	4
Leptospirosis: Hawaii-1, Mich.-1, Wash.-1	28	Trichinosis:	48
Plague:	2	Typhus, murine: Tex.-1	31
Psittacosis: Minn.-1	31	Polio, Unsp. Calif.-1	4

OBSCURE DISEASE RELATED TO AFRICAN MONKEYS – Germany

(Continued from front page)

early, followed by enanthem and exanthem which is scarlatiniform in appearance. Characteristically there is a leukopenia in the initial phase, followed by leukocytosis. Thrombocytopenia is accompanied by a bleeding tendeney from the mucous membranes. During the second phase there is evidence of involvement of the liver, heart, and brain. Deaths have usually been occurring from 7 to 12 days after onset.

The cases are associated with at least two (2) shipments of *Cercopithecus aethiops* from Uganda to the laboratories. At the Paul Ehrlich Institute cases are limited to persons who work in the animal operating room. At the Behringwerke cases also occurred among persons working with tissue cultures derived from monkey kidneys.

(Reported by Professor Werner Anders, Chief, Epidemiology Department, Max von Pettenkofer Institute, Ministry of Health, Berlin, Federal Republic of Germany, through the Foreign Quarantine Program, NCDC.)

Editorial Note:

An intensive international investigation of the source and causative agent of this obscure disease is in progress.

SALMONELLOSIS – Germany

According to an unofficial report of August 9, 1967, an epidemic of salmonellosis has occurred among patients and personnel at a church-supported hospital in Unna. This town is 280 km. north of Frankfurt am Main. Over 200 cases had been reported among the 450 patients and 300 employees. Contaminated food is thought to be the source. *Salmonella braenderup* has been isolated from food samples.

(Reported to Foreign Quarantine Program, NCDC.)

EPIDEMIOLOGIC NOTES AND REPORTS

HEPATITIS – Texas

Between June 18 and July 12, 1967, three cases of infectious hepatitis occurred among persons who had close eontact with two recently imported young chimpanzees at the Zoological Gardens in El Paso, Texas. Two of the cases were in animal handlers (ages 33 and 21) who had onsets of illness on June 18 and June 23, respectively, after having had close physical contact with the chimps since the arrival of the animals at the zoo on April 18, 1967. The third case was in a 37-year-old metal worker who had physical contact with the chimps on one day only (June 14) while inspecting their cage. He developed hepatitis 28 days later on July 12. All three men experienced malaise, anorexia, and fever followed by jaundice and abnormal liver function tests. Two were hospitalized briefly; all recovered with no apparent sequelae. None of the men knew of exposure to jaundiced or ill persons within the two months prior to onset of illness, none received transfusions of blood or blood products, and all denied raw shellfish ingestion.

Shortly after arrival at the El Paso Zoo on April 18, the chimps were treated for upper respiratory and gastrointestinal symptoms and had recovered by April 30. There has been no further clinical disease in the two animals, and at no time were they jaundiced. SGOT and SGPT determinations on their sera drawn July 2 were normal.

The chimpanzees were part of a larger group of chimps recently imported from Africa, housed together at an animal brokerage in another state, and shipped to several different destinations between April 12 and May 11. Among these, 7 were sent to the NCDC Field Station in Phoenix, Arizona. These chimps were routinely examined for evidence of hepatitis. Shortly after arrival, two of the animals had liver function abnormalities and liver biopsies compatible with "acute hepatitis." None had jaundice.

There were no known secondary cases of viral hepatitis among family members of the three patients; however, most of those at risk had received gamma globulin. There were 13 other cases of hepatitis reported to the El Paso City-County Health Department between April 1 and August 18. Nine of these were interviewed. None had contact with the chimpanzees.

(Reported by L. R. Hutchinson, V.M.D., M.S., Director, Veterinary Services, City-County Health Department, El Paso, Texas; M. D. Hornedo, M.D., Director, City-County Health Department, El Paso, Texas; and an EIS Officer.)

Editorial Note:

Outbreaks of infectious hepatitis associated with close contact with young chimpanzees have been reported in the past. (1,2,3,4) The presumed explanation for chimpanzee-associated cases of infectious hepatitis is transmission of the virus from man to chimpanzee and then back to man. The chimpanzees are usually acquired from West African natives, whose practice it is to capture the chimps as infants and bring them into their homes as pets. The animals have intimate contact with their captors and are exposed to the multiple infeetious agents endemic in the community. After purchase by the exporters, the

chimpanzees are shipped together, thus allowing possible viral transmission from animal to animal. Assuming an average incubation period of 30 days for both man and chimpanzees, the day of infection for the first two human cases must have been about May 20. 32 days after the chimps arrived at the zoo. Therefore it seems likely that the chimpanzees acquired their infection from the other chimps at the brokerage rather than in Africa. However, it is possible that chimpanzees infected with hepatitis continued to excrete the virus intermittently and for long periods of time, and acquisition of infection in Africa cannot be excluded with certainty.

The typical clinical picture of human infectious hepatitis is not a common occurrence in the chimpanzees, and it is presumed that they may serve as sources of infectious hepatitis in their contacts without manifesting the disease themselves.

REFERENCES:

1. Hillis, W. D.: An outbreak of infectious hepatitis among chimpanzee handlers at a United States Air Force Base. Amer J Hyg 73:316-328, 1961.

2. Davenport, F., Hennessy, A., Christopher, M., and Smith, C.: A common source multi-household outbreak of chimpanzee-associated hepatitis in humans. Amer J Epidem 83:146-151, 1966.

3. Mosley, J. W., Reinhardt, H. P., and Hassler, F. R.: Chimpanzee-associated hepatitis. JAMA 199:695-697, 1967.

4. Held, J. R.: The public health implications of nonhuman primates in the transmission of hepatitis to man. Proc. 100th Annual Meeting AVMA:183-185, 1963.

CRYPTIC* MALARIA CASE – Kentucky

A case of malaria was recently reported in a 41-year-old carpenter who resides in Bowling Green, Kentucky. The patient experienced fever, myalgia, and headache on July 9, 1967, accompanied by shaking chills on the following day. Since the fever persisted despite administration of antibiotics, he was admitted to the hospital on July 12 as a suspect case of malaria. The diagnosis of malaria was confirmed that same day when a practing physician and a pathologist identified *Plasmodium vivax* parasites in a peripheral blood smear. The blood smears were not available for review, but the diagnosis was supported by the National Institute of Allergy and Infectious Diseases (National Institutes of Health) where fluorescent antibodies against *P. vivax* were noted in a dilution of 1:80.

The patient had not been outside the United States and had no history of blood transfusions or use of commonly shared syringes. Although he reportedly had had malaria 20 years ago, he has had no unexplained fever episodes since that time. He lives in a well-screened, air-conditioned home in a modern suburban area. His only travel outside Bowling Green during the 2 months prior to the onset of illness involved two fishing trips. On June 16, 1967, he fished at a lake 110 miles west of Bowling Green, and on June 30, 1967, he went to a reservoir 30 miles east of Bowling Green. Neither of the two family members who accompanied him on these trips have developed any illness.

Epidemiologic investigation included a search for additional cases through personal interviews with 98 general practitioners, internists, and pediatricians who practice in the area of Bowling Green and the two lakes. A total of eight patients were uncovered with a history compatible with malaria. Results of blood smear examinations and fluorescent antibody determinations were all negative. A survey of medical laboratories in the area, and of fishermen frequenting the two lakes, did not result in the identification of any additional malaria cases.

The place and source of infection of this isolated case remain unclear. One of two servicemen who acquired malaria in Kentucky in 1967 (MMWR, Vol. 16, No. 29, p. 239), also had been fishing, but at a site 40 miles away from the closest of the above two lakes.

In the absence of any associated cases, this episode has been classified as a cryptic* case of malaria.

(Reported by Dr. Calixto Hernandez, Director, Division of Epidemiology, Dr. J. W. Skaggs, Acting Director, Office of Communicable Diseases, and Mr. J. Clifford Todd, Director, Field Investigations Unit, all with the Kentucky State Department of Health; and a team from NCDC.)

*Cryptic malaria case – an isolated case of malaria not associated with secondary cases as determined through appropriate epidemiological investigation.

MEASLES EPIDEMIC – Oklahoma

Eleven cases of rubeola, including one death from measles encephalitis, confirmed by autopsy, were reported to the Oklahoma State Health Department from the USPHS Indian Hospital at Lawton, Oklahoma, for the week ending August 19, 1967. A request was made from the Oklahoma State Health Department's Division of Epidemiology to the NCDC for measles vaccine from the epidemic control stockpile. The USPHS hospital through its clinics in Lawton, Anadarko, and Carnegie, Oklahoma, serves a twelve-county area with an Indian population of approximately 1,000 children in the 1-10 year age range susceptible to measles. In the past year, approximately 250 doses of Edmonston vaccine have been administered to Indian Hospital outpatients. Through the State immunization program, approximately 5,270 doses have also been distributed to both Indians and non-Indians for the twelve-county population of 63,667 in the 1-10 year age group.

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CASES OF SPECIEIED NOTIEIABLE DISEASES: UNITED STATES

EOR WEEKS ENDED

SEPTEMBER 9, 1967 AND SEPTEMBER 10, 1966 (36th WEEK)

AREA	ASEPTIC MENINCITIS		BRUCELLOSIS	DIPHTHERIA	ENCEPHALITIS			HEPATITIS			
					Primary including unsp. cases		Post-Infectious	Serum		Infectious	
	1967	1966	1967	1967	1967	1966	1967	1967	1966	1967	1966
UNITED STATES...	144	141	3	3	36	71	11	38	14	590	439
NEW ENCLAND.....	4	14	-	-	-	1	-	-	-	44	18
Maine.....	-	-	-	-	-	-	-	-	-	5	2
New Hampshire.....	-	-	-	-	-	-	-	-	-	-	-
Vermont.....	-	-	-	-	-	-	-	-	-	-	-
Massachusetts.....	2	6	-	-	-	-	-	-	-	26	7
Rhode Island.....	2	8	-	-	-	1	-	-	-	7	3
Connecticut.....	-	-	-	-	-	-	-	-	-	6	6
MIDDLE ATLANTIC.....	19	15	-	-	-	3	-	13	5	81	67
New York City.....	5	-	-	-	-	-	-	9	4	38	14
New York, Up-State.	-	-	-	-	-	1	-	3	-	11	21
New Jersey.....	14	10	-	-	-	-	-	1	1	20	13
Pennsylvania.....	-	5	-	-	-	2	-	-	-	12	19
EAST NORTH CENTRAL...	24	12	-	-	21	21	2	4	1	89	69
Ohio.....	9	3	-	-	19	19	-	-	-	11	21
Indiana.....	-	-	-	-	-	-	-	-	-	3	6
Illinois.....	11	4	-	-	2	1	-	1	-	36	16
Michigan.....	3	5	-	-	-	-	2	3	1	34	19
Wisconsin.....	1	-	-	-	-	1	-	-	-	5	7
WEST NORTH CENTRAL...	6	7	1	-	2	18	3	-	-	35	38
Minnesota.....	4	5	-	-	-	1	3	-	-	10	4
Iowa.....	1	-	-	-	2	-	-	-	-	3	19
Missouri.....	1	-	-	-	-	1	-	-	-	9	13
North Dakota.....	-	2	-	-	-	1	-	-	-	-	2
South Dakota.....	-	-	-	-	-	2	-	-	-	1	-
Nebraska.....	-	-	1	-	-	1	-	-	-	1	-
Kansas.....	-	-	-	-	-	12	-	-	-	11	-
SOUTH ATLANTIC.....	49	15	-	-	2	3	2	1	3	54	59
Delaware.....	-	1	-	-	-	1	-	-	-	3	2
Maryland.....	43	-	-	-	-	-	-	1	-	11	10
Dist. of Columbia..	-	-	-	-	-	-	-	-	-	-	1
Virginia.....	4	3	-	-	1	1	-	-	1	11	18
West Virginia.....	-	8	-	-	1	-	-	-	-	1	4
North Carolina.....	1	2	-	-	-	-	-	-	2	2	12
South Carolina.....	-	-	-	-	-	-	-	-	-	3	1
Georgia.....	-	-	-	-	-	-	-	-	-	16	6
Florida.....	1	1	-	-	-	1	2	-	-	7	5
EAST SOUTH CENTRAL...	7	1	-	2	1	2	1	-	1	29	23
Kentucky.....	1	-	-	-	1	-	-	-	-	11	6
Tennessee.....	3	1	-	-	-	2	1	-	-	10	10
Alabama.....	2	-	-	2	-	-	-	-	1	5	3
Mississippi.....	1	-	-	-	-	-	-	-	-	3	4
WEST SOUTH CENTRAL...	5	41	1	1	-	12	-	-	1	73	34
Arkansas.....	-	-	-	-	-	-	-	-	-	16	5
Louisiana.....	4	4	-	1	-	6	-	-	1	16	5
Oklahoma.....	1	6	1	-	-	3	-	-	-	4	-
Texas.....	-	31	-	-	-	3	-	-	-	37	24
MOUNTAIN.....	-	2	-	-	4	5	-	-	-	31	19
Montana.....	-	-	-	-	-	2	-	-	-	8	1
Idaho.....	-	-	-	-	-	-	-	-	-	7	2
Wyoming.....	-	-	-	-	2	-	-	-	-	-	2
Colorado.....	-	-	-	-	1	1	-	-	-	1	1
New Mexico.....	-	-	-	-	1	1	-	-	-	-	8
Arizona.....	-	2	-	-	-	1	-	-	-	14	3
Utah.....	-	-	-	-	-	-	-	-	-	1	2
Nevada.....	-	-	-	-	-	-	-	-	-	-	-
PACIFIC.....	30	34	1	-	6	6	3	20	3	154	112
Washington.....	1	3	-	-	-	1	1	-	-	10	9
Oregon.....	2	-	-	-	-	-	-	-	-	12	9
California.....	22	30	1	-	6	5	2	20	3	130	88
Alaska.....	-	-	-	-	-	-	-	-	-	2	6
Hawaii.....	5	1	-	-	-	-	-	-	-	-	-
Puerto Rico	-	-	-	-	-	-	-	-	-	14	16

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

SEPTEMBER 9, 1967 AND SEPTEMBER 10, 1966 (36th WEEK) - CONTINUED

AREA	MALARIA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS, TOTAL			POLIOMYELITIS			RUBELLA
			Cumulative			Cumulative		Total	Paralytic		
	1967	1967	1967	1966	1967	1967	1966	1967	1967	Cum. 1967	1967
UNITED STATES...	32	194	57,617	189,095	21	1,676	2,694	3	2	21	123
NEW ENGLAND.....	3	3	848	2,250	-	68	118	-	-	-	25
Maine.....	2	-	238	198	-	3	9	-	-	-	4
New Hampshire.....	-	-	74	80	-	2	9	-	-	-	-
Vermont.....	-	-	42	232	-	1	4	-	-	-	2
Massachusetts.....	1	3	343	778	-	32	48	-	-	-	1
Rhode Island.....	-	-	62	72	-	4	13	-	-	-	6
Connecticut.....	-	-	89	890	-	26	35	-	-	-	12
MIDDLE ATLANTIC.....	20	9	2,255	17,986	3	273	322	-	-	5	8
New York City.....	1	3	453	8,278	-	48	45	-	-	1	4
New York, Up-State.	-	5	583	2,528	1	67	91	-	-	1	2
New Jersey.....	7	-	486	1,846	-	93	97	-	-	-	-
Pennsylvania.....	12	1	733	5,334	2	65	89	-	-	3	2
EAST NORTH CENTRAL...	-	45	5,387	68,523	2	237	418	2	2	3	13
Ohio.....	-	-	1,139	6,335	1	80	115	-	-	-	2
Indiana.....	-	-	593	5,676	-	34	74	-	-	-	-
Illinois.....	-	10	952	11,338	-	54	77	-	-	-	2
Michigan.....	-	2	921	14,372	1	53	110	2	2	3	9
Wisconsin.....	-	33	1,782	30,802	-	16	42	-	-	-	-
WEST NORTH CENTRAL...	-	6	2,837	8,670	1	72	144	-	-	3	2
Minnesota.....	-	1	121	1,639	1	18	34	-	-	-	-
Iowa.....	-	1	748	5,305	-	14	22	-	-	1	2
Missouri.....	-	1	333	531	-	15	55	-	-	-	-
North Dakota.....	-	1	862	1,079	-	1	11	-	-	-	-
South Dakota.....	-	-	52	40	-	6	4	-	-	-	-
Nebraska.....	-	2	628	76	-	12	8	-	-	-	-
Kansas.....	-	-	93	NN	-	6	10	-	-	2	-
SOUTH ATLANTIC.....	3	16	6,870	15,192	6	321	453	-	-	2	18
Delaware.....	-	1	46	257	-	6	4	-	-	-	-
Maryland.....	1	3	157	2,103	2	41	46	-	-	1	-
Dist. of Columbia..	-	-	22	382	-	10	11	-	-	-	-
Virginia.....	1	7	2,188	2,171	-	39	54	-	-	-	2
West Virginia.....	-	1	1,383	5,232	3	24	23	-	-	-	6
North Carolina.....	-	1	848	482	1	67	115	-	-	1	-
South Carolina.....	-	1	511	656	-	29	48	-	-	-	3
Georgia.....	-	-	34	234	-	49	63	-	-	-	-
Florida.....	1	2	1,681	3,675	-	56	89	-	-	-	7
EAST SOUTH CENTRAL...	-	10	5,177	19,660	1	129	236	-	-	1	14
Kentucky.....	-	4	1,325	4,701	-	35	85	-	-	-	1
Tennessee.....	-	2	1,864	12,267	1	55	78	-	-	-	13
Alabama.....	-	3	1,325	1,681	-	26	51	-	-	-	-
Mississippi.....	-	1	663	1,011	-	13	22	-	-	1	-
WEST SOUTH CENTRAL...	-	52	17,336	24,416	-	218	371	-	-	7	-
Arkansas.....	-	-	1,404	971	-	30	35	-	-	-	-
Louisiana.....	-	2	155	99	-	86	137	-	-	-	-
Oklahoma.....	-	-	3,351	484	-	16	18	-	-	1	-
Texas.....	-	50	12,426	22,862	-	86	181	-	-	6	-
MOUNTAIN.....	-	19	4,632	11,930	-	30	85	-	-	-	16
Montana.....	-	-	282	1,812	-	-	4	-	-	-	-
Idaho.....	-	2	380	1,562	-	3	5	-	-	-	-
Wyoming.....	-	1	181	159	-	1	6	-	-	-	-
Colorado.....	-	9	1,555	1,310	-	13	46	-	-	-	10
New Mexico.....	-	2	581	1,132	-	3	10	-	-	-	-
Arizona.....	-	1	1,015	5,284	-	4	10	-	-	-	4
Utah.....	-	4	369	628	-	4	-	-	-	-	2
Nevada.....	-	-	269	43	-	2	4	-	-	-	-
PACIFIC.....	6	34	12,275	20,468	8	328	547	1	-	-	27
Washington.....	-	3	5,422	3,527	1	29	37	-	-	-	-
Oregon.....	1	14	1,593	1,770	-	25	34	-	-	-	7
California.....	1	7	4,954	14,534	7	261	457	1	-	-	18
Alaska.....	1	5	138	501	-	9	15	-	-	-	-
Hawaii.....	3	5	168	136	-	4	4	-	-	-	2
Puerto Rico.....	-	5	2,108	2,669	-	12	11	-	-	-	-

CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
FOR WEEKS ENDED
SEPTEMBER 9, 1967 AND SEPTEMBER 10, 1966 (36th WEEK) - CONTINUED

AREA	STREPTOCOCCAL SORE THROAT & SCARLET FEVER	TETANUS		TULAREMIA		TYPHOID		TYPHUS FEVER TICK-BORNE (Rky. Mt. Spotted)		RABIES IN ANIMALS	
	1967	1967	Cum. 1967	1967	Cum. 1967	1967	Cum. 1967	1967	Cum. 1967	1967	Cum. 1967
UNITED STATES...	4,476	5	152	2	125	14	284	18	248	78	3,120
NEW ENGLAND.....	621	-	2	-	1	1	4	-	1	2	80
Maine.....	88	-	-	-	-	-	-	-	-	-	16
New Hampshire.....	-	-	-	-	-	-	-	-	-	1	42
Vermont.....	79	-	-	-	-	-	-	-	-	-	18
Massachusetts.....	38	-	1	-	1	-	2	-	1	-	2
Rhode Island.....	37	-	-	-	-	1	1	-	-	1	2
Connecticut.....	379	-	1	-	-	-	1	-	-	-	-
MIDDLE ATLANTIC.....	76	-	12	-	-	1	25	2	27	1	67
New York City.....	5	-	6	-	-	1	13	-	-	-	-
New York, Up-State.	69	-	1	-	-	-	7	-	7	1	57
New Jersey.....	NN	-	1	-	-	-	2	2	12	-	-
Pennsylvania.....	2	-	4	-	-	-	3	-	8	-	10
EAST NORTH CENTRAL...	187	1	17	-	12	2	25	2	22	3	306
Ohio.....	11	-	4	-	-	-	6	-	11	3	106
Indiana.....	38	-	3	-	2	2	10	-	1	-	69
Illinois.....	23	1	8	-	10	-	2	2	10	-	61
Michigan.....	64	-	2	-	-	-	6	-	-	-	20
Wisconsin.....	51	-	-	-	-	-	1	-	-	-	50
WEST NORTH CENTRAL...	368	-	10	-	21	1	16	-	3	12	731
Minnesota.....	-	-	3	-	-	-	1	-	-	3	141
Iowa.....	92	-	1	-	1	-	2	-	-	2	98
Missouri.....	-	-	5	-	8	1	8	-	1	4	135
North Dakota.....	81	-	-	-	-	-	-	-	-	1	129
South Dakota.....	10	-	1	-	2	-	-	-	-	-	92
Nebraska.....	102	-	-	-	-	-	4	-	2	1	49
Kansas.....	83	-	-	-	10	-	1	-	-	1	87
SOUTH ATLANTIC.....	505	2	36	-	9	6	46	8	103	9	402
Delaware.....	7	-	-	-	-	-	-	-	-	-	-
Maryland.....	88	-	-	-	-	-	2	1	19	-	2
Dist. of Columbia..	-	-	-	-	-	1	2	-	-	-	-
Virginia.....	126	1	8	-	-	1	4	1	24	1	181
West Virginia.....	157	-	1	-	2	-	1	-	1	-	57
North Carolina.....	5	-	6	-	-	-	3	1	41	-	3
South Carolina.....	21	-	1	-	2	-	9	-	4	-	-
Ceorgia.....	6	-	3	-	4	1	14	5	14	4	96
Florida.....	95	1	17	-	1	3	11	-	-	4	63
EAST SOUTH CENTRAL...	966	1	24	-	9	2	47	2	45	20	597
Kentucky.....	30	-	3	-	1	2	20	1	14	4	136
Tennessee.....	688	-	8	-	6	-	9	-	23	16	413
Alabama.....	138	-	9	-	-	-	9	1	8	-	39
Mississippi.....	110	1	4	-	2	-	9	-	-	-	9
WEST SOUTH CENTRAL...	545	-	34	2	61	-	32	2	29	23	669
Arkansas.....	-	-	5	-	36	-	9	1	8	-	92
Louisiana.....	2	-	3	1	5	-	13	-	-	3	59
Oklahoma.....	41	-	2	1	16	-	6	-	14	14	236
Texas.....	502	-	24	-	4	-	4	1	7	6	282
MOUNTAIN.....	717	-	-	-	8	1	17	-	8	5	100
Montana.....	43	-	-	-	1	-	1	-	-	-	-
Idaho.....	64	-	-	-	-	-	-	-	-	-	-
Wyoming.....	6	-	-	-	2	-	-	-	-	-	5
Colorado.....	327	-	-	-	1	1	12	-	8	-	10
New Mexico.....	136	-	-	-	-	-	1	-	-	-	29
Arizona.....	72	-	-	-	-	-	3	-	-	2	45
Utah.....	69	-	-	-	-	-	-	-	-	-	3
Nevada.....	-	-	-	-	-	-	-	-	-	3	8
PACIFIC.....	491	1	17	-	4	-	72	2	10	3	168
Washington.....	18	-	-	-	2	-	1	1	2	-	1
Oregon.....	43	-	1	-	-	-	-	1	2	-	3
California.....	336	-	13	-	2	-	68	-	6	3	164
Alaska.....	54	-	-	-	-	-	-	-	-	-	-
Hawaii.....	40	1	3	-	-	-	3	-	-	-	-
Puerto Rico.....	3	-	11	-	-	-	4	-	-	-	26

Week No. 36

DEATHS IN 122 UNITED STATES CITIES FOR WEEK ENDED SEPTEMBER 9, 1967

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes		Pneumonia and Influenza	Under 1 year
	All Ages	65 years and over	All Ages	All Causes
NEW ENGLAND:	746	449	35	29
Boston, Mass.	238	129	10	14
Bridgeport, Conn.	48	34	3	-
Cambridge, Mass.	29	19	-	-
Fall River, Mass.	38	24	2	1
Hartford, Conn.	41	23	2	1
Lowell, Mass.	44	31	2	1
Lynn, Mass.	24	16	2	-
New Bedford, Mass.	24	17	-	1
New Haven, Conn.	60	36	1	2
Providence, R. I.	68	35	4	2
Somerville, Mass.	8	6	2	-
Springfield, Mass.	45	29	4	1
Waterbury, Conn.	28	16	1	2
Worcester, Mass.	51	34	2	4
MIDDLE ATLANTIC:	2,925	1,663	89	109
Albany, N. Y.	42	16	-	3
Allentown, Pa.	44	27	2	3
Buffalo, N. Y.	137	78	1	7
Camden, N. J.	37	21	1	-
Elizabeth, N. J.	25	17	2	-
Erie, Pa.	30	18	2	2
Jersey City, N. J.	58	41	3	4
Newark, N. J.	63	34	3	3
New York City, N. Y.	1,525	859	46	53
Paterson, N. J.	43	26	1	3
Philadelphia, Pa.*	448	253	8	17
Pittsburgh, Pa.	157	84	8	8
Reading, Pa.	33	19	1	-
Rochester, N. Y.	78	45	4	4
Schenectady, N. Y.	36	20	2	1
Scranton, Pa.	36	26	1	-
Syracuse, N. Y.	60	35	-	-
Trenton, N. J.	36	21	2	1
Utica, N. Y.	17	10	2	-
Yonkers, N. Y.	20	13	-	-
EAST NORTH CENTRAL:	2,333	1,272	50	114
Akron, Ohio	56	36	-	2
Canton, Ohio	28	19	2	1
Chicago, Ill.	719	392	15	24
Cincinnati, Ohio	110	68	1	7
Cleveland, Ohio	202	91	2	11
Columbus, Ohio	102	48	3	9
Dayton, Ohio	58	26	2	7
Detroit, Mich.	306	154	3	11
Evansville, Ind.	42	25	1	3
Flint, Mich.	65	33	2	9
Fort Wayne, Ind.	36	20	2	4
Gary, Ind.	44	19	2	3
Grand Rapids, Mich.	56	36	3	1
Indianapolis, Ind.	138	75	2	6
Madison, Wis.	33	10	-	2
Milwaukee, Wis.	121	78	3	5
Peoria, Ill.	26	18	-	1
Rockford, Ill.	38	25	4	3
South Bend, Ind.	15	11	-	-
Toledo, Ohio	88	61	1	3
Youngstown, Ohio	50	27	2	2
WEST NORTH CENTRAL:	726	430	18	35
Des Moines, Iowa	46	34	-	1
Duluth, Minn.	26	16	-	1
Kansas City, Kans.	32	12	1	1
Kansas City, Mo.	120	70	2	8
Lincoln, Nebr.	28	17	-	2
Minneapolis, Minn.	101	61	3	9
Omaha, Nebr.	51	26	-	3
St. Louis, Mo.	211	125	6	5
St. Paul, Minn.	62	45	2	3
Wichita, Kans.	49	24	4	2
SOUTH ATLANTIC:	1,022	502	24	56
Atlanta, Ga.	133	61	-	9
Baltimore, Md.	205	107	-	13
Charlotte, N. C.	58	29	1	2
Jacksonville, Fla.	46	24	1	1
Miami, Fla.	87	42	-	7
Norfolk, Va.	47	24	4	3
Richmond, Va.	87	40	2	6
Savannah, Ga.	26	12	3	2
St. Petersburg, Fla.	52	38	3	6
Tampa, Fla.	74	30	5	1
Washington, D. C.	158	67	2	3
Wilmington, Del.	49	28	3	3
EAST SOUTH CENTRAL:	524	272	33	45
Birmingham, Ala.	70	40	-	3
Chattanooga, Tenn.	33	18	1	-
Knoxville, Tenn.	29	13	1	2
Louisville, Ky.	133	67	19	18
Memphis, Tenn.	95	54	6	9
Mobile, Ala.	48	19	2	5
Montgomery, Ala.	41	25	1	2
Nashville, Tenn.	75	36	3	6
WEST SOUTH CENTRAL:	980	500	27	54
Austin, Tex.	36	20	2	4
Baton Rouge, La.	32	22	2	2
Corpus Christi, Tex.	16	9	-	2
Dallas, Tex.	126	68	4	5
El Paso, Tex.	25	9	2	2
Fort Worth, Tex.	83	46	-	4
Houston, Tex.	172	71	3	7
Little Rock, Ark.	47	24	3	5
New Orleans, La.	169	78	4	10
Oklahoma City, Okla.	67	33	1	5
San Antonio, Tex.	106	63	2	5
Shreveport, La.	49	25	3	1
Tulsa, Okla.	52	32	1	2
MOUNTAIN:	385	214	13	22
Albuquerque, N. Mex.	39	23	4	2
Colorado Springs, Colo.	23	13	2	-
Denver, Colo.	115	67	2	7
Ogden, Utah	11	6	-	1
Phoenix, Ariz.	87	40	2	7
Pueblo, Colo.	10	7	2	-
Salt Lake City, Utah	50	31	1	1
Tucson, Ariz.	50	27	-	4
PACIFIC:	1,281	781	25	47
Berkeley, Calif.	21	14	-	-
Fresno, Calif.	44	17	2	5
Glendale, Calif.	35	30	1	2
Honolulu, Hawaii	40	20	-	2
Long Beach, Calif.	62	43	1	-
Los Angeles, Calif.	384	233	9	17
Oakland, Calif.	66	44	-	2
Pasadena, Calif.	45	40	3	1
Portland, Oreg.	71	36	-	4
Sacramento, Calif.	63	33	-	2
San Diego, Calif.	97	65	1	-
San Francisco, Calif.	141	73	1	3
San Jose, Calif.	24	12	-	2
Seattle, Wash.	115	71	7	2
Spokane, Wash.	40	26	-	4
Tacoma, Wash.	33	24	-	1
Total	10,922	6,083	314	511

*Estimate - based on average percent of divisional total.

Cumulative Totals
including reported corrections for previous weeks

All Causes, All Ages	443,788
All Causes, Age 65 and over	253,232
Pneumonia and Influenza, All Ages	15,762
All Causes, Under 1 Year of Age	22,533

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MEASLES EPIDEMIC – Oklohomo

(Continued from page 303)

This was generally below the level of vaccine distribution to comparable populations across the state. Since there is no segregation of educational facilities, a program was set up in which 2,000 susceptible non-Indian and Indian children in three population centers were immunized using live measles vaccine (Swartz strain). *(Submitted by Dr. Leroy Carpenter, Oklahoma State Epidemiologist, and an EIS officer.)*

ERRATUM: Vol. 16, No. 24, p. 286

In the article "Shigellosis – Vermont," the last sentence in the first paragraph on p. 286 is incomplete. It should read: "In the second wave, however, there appeared to be a greater risk of infection among employees working in the camp stables, as 8 of 21 (38 percent) were affected in contrast to 17 of 107 (16 percent) employees working in other areas of the camp."

THE MORBIDITY AND MORTALITY WEEKLY REPORT, WITH A CIRCULATION OF 17,000, IS PUBLISHED AT THE NATIONAL COMMUNICABLE DISEASE CENTER, ATLANTA, GEORGIA.

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THE EDITOR
MORBIDITY AND MORTALITY WEEKLY REPORT
NATIONAL COMMUNICABLE DISEASE CENTER
ATLANTA, GEORGIA 30333

NOTE: THE DATA IN THIS REPORT ARE PROVISIONAL AND ARE BASED ON WEEKLY TELEGRAMS TO THE NCDC BY THE INDIVIDUAL STATE HEALTH DEPARTMENTS. THE REPORTING WEEK CONCLUDES ON SATURDAY; COMPILED DATA ON A NATIONAL BASIS ARE RELEASED ON THE SUCCEEDING FRIDAY.

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